

REMARKS

By this amendment, Applicants have amended claims 2 and 3 to be independent form by including therein all the limitations previously recited in claim 1, from which claims 2 and 3 previously depended. Accordingly, claim 1, as well as claims 4 and 5 have been cancelled without prejudice or disclaimer.

Since the foregoing amendments merely cancel claims and rewrite claims in independent form, entry of this amendment under 37 CFR 1.116 is requested.

Claims 1-5 stand rejected under 35 U.S.C. 103(b) as allegedly being anticipated by, or, in the alternative, under 35 U.S.C. 103(a) as obvious over either U.S. Patent No. 4,877,523 to Nunogaki or the article by Murayama et al. in the Journal of Chromatography. Applicants again traverse this rejection and request reconsideration thereof.

The present invention relates to a method for sizing the cells of centrifugal liquid-liquid chromatography devices (i.e., increasing or decreasing the scale of the chromatography devices) comprising a network of three-dimensional cells interconnected in series and communicating with liquid circulation means, the cells being distributed over the periphery of at least one disc driven in rotation, a first and a second dimension (L, I) of the cells being oriented in a plane substantially normal to the axis of rotation (Ω) of the disc. According to the method of the present invention, the third dimension (e), arranged in a direction substantially parallel to the axis of rotation, is increased or decreased and additionally, if necessary, so are the other two dimensions, but keeping the third dimension (e) at least equal to one of the other dimensions (L, I).

The Nunogaki patent discloses a cassette for use in a centrifugal counter-current distribution chromatographic apparatus. The cassette comprises at least one

flat plate member having defined therein a plurality of slots and a corresponding number of narrow grooves alternating with the slots, each of the narrow grooves being continued at one end to one slot and at the other end to the next adjacent slot, sealing plates disposed on respective side faces of the flat plate member, and metallic side plates clamped together with the flat plate member and the sealing plates disposed therebetween. The slots and narrow grooves are so defined in the flat plate member that, when the cassette is mounted on the rotor, they can be oriented radially of the rotor. The cassette comprises at least one flat plate member having defined therein a plurality of slots and a corresponding number of narrow grooves alternating with the slots, each of the narrow grooves being continued at one end to one slot and at the other end to the next adjacent slot, sealing plates disposed on respective side faces of the flat plate member, and metallic side plates clamped together with the flat plate member and the sealing plates disposed therebetween. The slots and narrow grooves are so defined in the flat plate member that, when the cassette is mounted on the rotor, they can be oriented radially of the rotor.

The “cells” in the cassette of Nunogaki are defined by the slots. In the last paragraph on page 3 of the Office Action, the Office Action mistakenly equates the cassettes 13a and 13b of Nunogaki with the cells of the present invention. However, the cassettes 13a and 13b do not comprise a network of three-dimensional cells interconnected in series and communicating with liquid circulation means. Rather, the cassettes 13a and 13b include such cells. In Nunogaki the cells are in the cassettes and are defined by the slots, but the cassettes per se are not the cells.

As apparent from, e.g., Figure 7, the slots 26 or cells in Nunogaki are flat, with the main direction appearing to radial. A slots or cells of Nunogaki clearly do not

have a third dimension (e) arranged in a direction substantially parallel axis to the rotation at least be equal to one of the other two dimensions. No such resizing process is described in Nunogaki. In fact, it appears the Nunogaki patent teaches away from the presently claim method since it appears the third dimension of the slots arranged in a direction substantially parallel to the axis of rotation in Nunogaki is selected to be less than the other two dimensions. Therefore, the Nunogaki patent does not anticipate or render obvious the presently claimed invention.

In the Murayama et al., the description of the device corresponds to the Nunogaki patent. The “cassette” is named “cartridge,” but the dimensions of cells are similar, so the differences with the present invention are the same as with Nunogaki.

Neither Nunogaki nor Murayama et al. disclose increasing or decreasing the scale in the manner claimed. Accordingly, neither Nunogaki nor the Murayama et al. article anticipates or renders obvious the presently claimed invention.

Claims 1-5 stand rejected under 35 U.S.C. 103(a) as being unpatentable over either Nunogaki or Murayama et al. in view of the cited GEPEA article. Applicants again traverse this rejection and request reconsideration thereof.

The deficiencies of Nunogaki and Murayama et al. are noted above. It is submitted these documents actually teach away from the presently claimed invention for the reasons noted.

Concerning the GEPEA article, page 5: “Changement d’échelle” (or “upscaling”): this text describes only that the problem of upscaling for adapting the CPC to the different biphasic systems must be studied. Nowhere does the GEPEA article disclose the rules presently claimed. So, this document does not give any

apparent reason to modify Nunogaki or Murayama et al. to arrive at the presently claimed invention.

For the foregoing reasons, it is submitted the presently claimed invention is patentable over Nunogaki or Murayama et al. or in combination with the GEPEA article.

In view of the foregoing amendments and remarks, entry of this amendment and favorable reconsideration and allowance of all of the claims now in the application are requested.

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 612.46622X00), and please credit any excess fees to such deposit account.

Respectfully submitted,

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